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FRAGARICULTURE;

OR THE

CULTURE

OF THE

STRAWBERRY.

A PRACTICAL TREATISE ON THE

Culture, Propagation, Management and Marketing of Strawberries.

ILLUSTRATED

With Photographs, representing Average Size of Best Varieties.

ESPECIALLY ADAPTED TO THE FAMILY GARDEN.

BY FELIX GILLET,

NEVADA CITY, - - CALIFORNIA.

SPAULDING & BARTO, STEAM BOOK AND JOB PRINTERS,
414 Clay Street, below Sansome, San Francisco.
1876.

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INTRODUCTION.

A lively interest in the culture of small fruit has been steadily and of late developing itself on both sides of the Atlantic and in this most privileged region, California—that Garden of America—people of small means finding in that pleasant and light industry quite a remunerative profit for their labor, and amateurs an ample reward for their endeavors in improving old varieties and originating new ones. But the Strawberry, more than any of the other small fruits, has been unmistakably the great favorite over all, and the one which has attracted the most attention about its culture and ameliorations; so that to-day more than 400 varieties, so different in shape, size and color, are, in Europe and America, rivaling each other in berries most beautiful, luscious and large.

The author of this little work, after a long practice and thorough investigation of his subject, and when success repeatedly crowned his efforts, as any one in Nevada City can readily testify, offers to the public in general this short, concise and practical treatise on the culture of the Strawberry, in the hope that this culture, as well and clearly understood as described here, will induce people who have a garden or land to that effect to improve their homes in giving a place to this interesting plant, and raising, either for their own table or market purposes, as large and nice berries as those we are raising here every season.

A great deal, it is true, has been already written in periodicals on the Strawberry; however, and particularly so on this coast, there is a lack of information about its culture, and our task is simply to supply a want justly felt and give an impetus to this most pleasant business.

This treatise, we must say, is not precisely written to the address of field-growers who cultivate the Strawberry on a large scale, but is rather intended for those people who do raise strawberries for their own use or on a small scale for a near market; though both, we are confident, will find in it many hints of much profit or value to them.

Last, to render the work more attractive yet, we have put ourselves to the costly expense of illustrating it with beautiful photographs, representing faithfully and—as no wood cuts could do—the average size and exact shape of berries of the best known varieties.

We will, therefore, tell to you, gentle reader, read and peruse our little book; then go to work in your garden, improve your home by setting out Strawberry plants and you will be munificently rewarded for your pains and industry by getting a bountiful supply of this most delicious and popular of all fruits, and for a dish of which old Jove and the gods had kicked the divine ambrosia, if, at that time, America, which gave us the annual Strawberry, the only one cultivated now-a-days, had been discovered.

ALCOTT PINEAPPLE.

FRAGARICULTURE.

The Strawberry plant, in Latin *Fragaria*, is a native of the northern hemisphere—Europe and America—and also of the most southern parts of South America and the Moluccas Islands, but with this difference, that the Wood, Perpetual and Alpine varieties are all natives of Europe, while the beautiful scarlet *annual* varieties have originated in America (*Fragaria Virginiana*), the white annual in Chile, and Pineapple varieties in the Moluccas.

From the word *Fragaria* the French have made *Fragariculture*, the culture of the Strawberry; *Fragariculturist*, the person that cultivates and raises Strawberries. Why shouldn't we adopt in English those very words, as we did already with *Sericulture* (the raising of silk), *Viticulture* (the culture of the grape), *Vinieulture* (the manufacturing of wine), and so forth? This hint is humbly submitted to all those interested in the culture of the Strawberry.

Description.

That beautiful and delicious little fruit, the very first one to ripen in our latitude, is so well known of every one that a minute description of the fruit is needless. Let us say, however, that, according to varieties, Strawberries take all kinds of shapes, round, oblong, conical, triangular, flat, etc., and all shades of red, from dark to light scarlet, from crimson to a pale rosy tint. The pale-colored Strawberries are generally the sweetest and best flavored ones; the largest are the Hybrids, obtained in crossing the White Chile to the Virginia Scarlet and Surinam Pineapple varieties. Annuals have the nicest flavor, but the Wood, or Everbearing, are the most fragrant.

Varieties.

Strawberries may be divided in two distinct families, the Everbearing and Annual, each family dividing itself up into species and each species into so many varieties. Under their respective heads, we shall speak of each family separately.

There are already over 400 named varieties of Strawberries both in Europe and America, differing mainly in the size of plants, shape of leaves, number of runners, size, color and shape of berries, time of ripening, etc. On the 37 varieties kept on our place, this difference is rather striking, more than anybody would expect at first sight from such an insignificant little plant as the Strawberry.

Selection.

People starting Strawberry beds might be at a loss what varieties to select among so many. Here is what we would advise them to do: In the first place, get the address of a conscientious, reliable nurseryman; leave it to him as to the selection of varieties, but have very early, early, half late and late sorts. Another point to which we call the attention of all interested—that plants of an *inferior* variety that cost but little are a great deal dearer than those of a *superior* variety which have to be paid a big price; indeed, the price of plants amounts to very little, for a dozen of plants will give in the same season, through their runners, hundreds of well-rooted plants. It is a very poor economy to cultivate thoroughly a piece of land, manure it well, and set plants of poor varieties because they are cheap. We therefore advise people to procure, whatever they cost, the finest, largest and most productive varieties, and when ignorant about which are the best, to leave it to the nurseryman, who has no interest at all in deceiving customers as to the nicest varieties kept by him.

The Soil.

If we were asked in what kind of soil the Strawberry thrives the best, we wouldn't be very apt to answer; but if we were asked in what kind of soil it cannot grow, we should be still more at a loss what to say. However, some varieties do better in certain soils than others, yielding larger crops and berries of a superior quality; anybody will find that out by a two or three years' experience.

The Strawberry grows everywhere, at all exposures, in every kind of soil; though in calcareous, sandy and light soil the fruit is better flavored and more delicate. A southern exposure diminishes the quantity but improves the quality; that of the north, the reverse. This is as a general rule; for here, in the foothills of the Sierra, we have obtained enormous crops of well flavored berries at all exposures. It is due likely to the clear sky of our beautiful climate, the sun spreading constantly and lavishly

its warm rays all round, causing, therefore, very little difference between both exposures. If having but very little water to irrigate with, we would rather advise our California fragariculturists to give a northern, somewhat shady exposure to their Strawberry beds.

Preparation of the Soil.

This is the most important point in Strawberry raising, and the whole secret for us having succeeded so splendidly on our *barren hill*. The soil must be thoroughly broken up, the depth varying according to its nature; if, for instance, the surface ground is deep and soft, there is very little work to do outside of plowing and spading; but when that surface is only from six to twelve inches thick, and hard withal, it is absolutely necessary to break up the soil at a depth of eighteen inches. This is the way we do it: If the piece of ground we want to break up is sloping, we commence by the upper end, digging out a trench three feet wide and eighteen inches deep, taking the dirt, with a wheelbarrow, to the lower end of the field to fill up the last trench with; then we throw the dirt from the second trench into that one just digged out, and so on to the end of the bed, niveling up at the same time. This may be called a costly way of preparing the soil, but we can prove that it is really the cheapest. The advantages of having the soil so broken up are, indeed, manifold: First, all the weeds and seeds that covered the surface are entirely done with, buried, as they are, over a foot in the ground; secondly, the roots of the Strawberry plants, having a chance to plunge down into the good top dirt now in the bottom, strong, luxuriant, healthy plants, with no vacancies at all, soon cover with their green foliage the whole surface; thirdly, the plants will resist the summer's drought so much better, their roots being able to run down as deep as the soil has been broken up; fourthly, when irrigating—and in California we have to resort to irrigation because of the total absence of rain, through our dry and hot summers—the soil does hold the moisture better and longer whether it is irrigated by immersion or submersion; by immersion the water will go down first into the bottom, to rise up, little by little, to the surface; by submersion, it will run down from the surface clear to the deep bottom. Strawberry beds so irrigated will stand a month of drought without wilting any; at any rate, the deeper go the roots, the stronger will the plants be, and the less manure and water will they require.

Manures.

This is almost as important an item in Strawberry growing as the thorough culture and breaking up of the soil. All kinds of manure will do for the Strawberry, though we prefer well decomposed barn manure to any other. It is better to have manure hauled up through the summer and dumped into a hole and watered so that it will rot without heating too much. Ashes, street-sweepings, etc., might be mixed to common barn manure if the latter is scarce or high. If fresh manure could only be obtained when setting plants in the fall, it would not make much difference, such manure having time to rot in the ground during the winter. In dry soil, a mixing up of horse and cow manure, or cow manure alone with ashes, or anything to bring moisture to the ground, is very desirable. Liquid manure can be used with much advantage, especially after the setting of young plants, but people must be very careful when using liquid manure, which is very powerful and hot; to do it when the plants are well and strongly rooted. This recommendation applies to vegetables as well as to Strawberry plants. Many persons, not knowing any better, give liquid manure to their plants just a few days after setting. It is wrong, and very often kills off the plants.

Time of Setting Strawberries.

Wherever it can be done—for in some parts of the United States the intense cold of the winter prevents doing it—the best time for setting out Strawberry plants is certainly the fall. In the first place, plants set out early do grow good roots before the winter sets in, so that they can stand well the frost. Then, with such a good start, they will grow very stoutly the ensuing season; so much so that the Biennial varieties (see that heading) will yield quite a crop in the fall. Another good reason for setting out plants in the fall, is that, at that time of the year, there is, on any place, more leisure to do the work than in the spring, when work crowds up from all sides.

When the plot to set out Strawberry plants has been broken up during the winter, which is, in this State, the best time of the year for doing it, it is well to manure it in the spring and raise a crop of early potatoes or peas, corn, etc., such crops in fact that can be taken out in or before the fall; then manure it again, and set in the Strawberry plants. This we found a good plan to pursue, for a newly-broken-up ground is rather poor, and this raising of a crop

COL. CHENEY.

preparatory to setting Strawberry plants makes up the soil, and a new manuring renders it plenty rich enough for the Strawberry plants to thrive in it splendidly.

Setting out Strawberries.

The ground being well plowed and harrowed if a large field, well spaded and leveled if a small one, all that has to be done is to stretch out a cord so as to have the plants set in straight rows; then, arming oneself with a gardener's trowel, to go to work digging out rooted runners and planting them. Where the ground is stiff enough, it is best to dig out the plants so that much of the dirt will stick to the roots, forming like a little cube from 2 to 3 inches square. If the ground was dry at the time, it would have to be watered some before taking up the plants; the dirt would then cut easier and stick better, too. When the ground is light and sandy, plants have to be taken out just as they come, with or without dirt sticking to the roots. Of course, we are speaking of plants grown on one's place. Now as to the setting out, when the plants have been taken up with a sod of earth, all that has to be done is to dig out a little hole with the trowel, stick the plant into it and fill up the interstices with dirt. If the roots are loose it is best to dig out a little hole large enough for enabling to place in the center a handful of earth, rounded up in a conical form, the plant being set on the top of this little mound with the roots well spread out. But never stick the plant in the hole in a heap; better take a little more pains, do it right, and not a single vacancy will occur. No matter how moist is the ground, and the weather be cloudy or not, *always* water Strawberry plants after setting.

Culture in Rows and Hills.

The row and hill system is certainly the best of all, especially to raise large and fine fruit. The rows should be two feet apart, thirty to thirty-six inches if irrigating by running water in each row like it is done in California. The plants should be set, the large growing sorts two feet from each other in the row, the smaller ones from twelve to eighteen inches.

During the first year, as the plants take very little place, a row of small vegetables may be raised between the rows of Strawberry plants, such like onion, garlic, lettuce, etc.

The word "hill," used under this head, does not mean that

the plants are set on a little mound; the term comes from the particular manner Strawberry plants so grown are treated, the runners being clipped off so that the plants stand by themselves as so many little hills.

Matted Row System.

This method is resorted to with certain varieties of Strawberries, or in places where it would offer some natural advantages on the row and hill system. Plants have to be set out in the same manner as described above, in rows two feet apart, and a certain number of rows to every matted bed; three feet of clear ground being kept between the beds. Runners are allowed to run and root inside of the rows, but not on that strip of clear ground which has to be spaded or plowed in the spring. That way there are matted beds at every alternate space. Weeds must not be allowed to take a start on the plants, and have to be unmercifully pulled out as soon as they put up an appearance, or at least before they seed out. The same thing, of course, applies to the hill system concerning weeds, though a hoe or cultivator can be used instead of the fingers, as it is the case with matted rows. Some varieties of Strawberries, like the French, New Jersey Scarlet, and others, do very well in matted rows.

Mulching.

To raise clean and nice berries, the beds have to be well mulched. Horse manure, straw, new mown grass, well rotted tan bark, planing-mill shavings, pine leaves, etc., are all materials used for mulching purposes; in fact, one has to use the material most at hand and consequently the cheapest. On our place, we use pine leaves, and we must say that it constitutes the best mulching known; for heavy rains do not wash or cut the beds that are sloping; no weeds grow from the use of it; it keeps a long time before it is rotten enough to have it replaced, the ground is kept nicely moistened underneath, and the air is not prevented of getting under as it might be with other material.

The trouble with manure-mulching is the quantity of weeds that will surely come out from its use; and if the manure is too new, numbers of insects will make their abode under it. When the beds have to be manured or cultivated the mulching material has to be raked up in small piles in

every alternate row, and scattered back over the beds when the work is done; never turn it into the ground unless it is well rotten. In California, mulching is almost indispensable; more so when water for irrigation is scarce. But in this State, even high up among the foot-hills of the Sierra Nevada, where it is quite cold in winter, we do not need winter mulching as they do in the Eastern States, to prevent upheaving, though we do leave on the ground the mulching used in the hot season.

Irrigation.

In California no Strawberries of any account can be very well raised without resorting to irrigation, so dry are our summer months; planted and cultivated in a slipshod way they would surely all dry up and die; but set in ground broken up deep, well manured and cultivated as described above, Strawberry plants will only dry up some, if not irrigated, but not die, the fall rains starting them up anew.

We would here advise our eastern Fragariculturists to experiment watering or irrigating, when it can be done without much trouble or expense; we are satisfied that they will find a very big difference between irrigated and unirrigated Strawberry fields. Another fact which has been found by French and English horticulturists, is that Strawberries do prefer artificial watering to the natural moisture of the soil or rain.

Irrigation might be done by immersion or submersion if the soil is deep, naturally so, or, by having had the ground broken up to a good depth, small ditches can be digged out every fifteen or twenty feet, the water being permitted to run but slowly into the ditches, so that it would not wash over; it will thus soak down all along the under soil, if the land is in the least sloping, and rise up from the bottom to the top. Submersion is done by the use of hose with sprinklers, or simply by letting the water run into very small trenches, one trench to each row; the water being conducted to the rows through small boxes having holes to let the water out in front of each row. Very little trouble is thus given in irrigating Strawberries. With this system of irrigation, rows have to be well apart, at least two feet.

Strawberries need absolutely water, whichever way it comes, from the clouds or reservoir, from the time the fruit is taking shape to ripening time.

Care of Plants after Setting.

Strawberry plants after being duly set, have to be watched all the year around. In the first place blossom stems have to be unmercifully taken off on plants set in the spring, for young plants must not bear any fruit the first season, if good size plants and a full crop of fruit the first bearing year is desired. Then the fruit that such young plants bear do not amount to anything, so it is cheaper and better to sacrifice a few berries and let the plants get strong and thrifty first. This rule applies likewise to all kinds of fruit.

Runners have to be continually destroyed; they have to be taken off before getting rooted; if not, it would be a long and tedious job. We do it when they are one foot long, and always use a knife or scissors, but never pull them off violently with the fingers.

Strawberry beds must be kept entirely free of weeds, and they have to be pulled out, too, before the seed gets ripened. Besides being kept clear of weeds and runners, the surface must be well loosened up. For people who raise Strawberries on a small scale, the best thing to use is a spading fork; the mulching need not be taken off, the ground being lift up here and there with the fork without turning it over.

You cannot expect a good crop of large, nice berries if you do not keep the beds clean and the earth loosened. The ground must be kept moist enough to prevent the wilting of the plants. After the berries are all picked, it is well to clip off the plants close to their crown, fork up the space between the rows, and water immediately; in this way, we get rid at the same time of old leaves, fruit stems, and runners; the plants soon throwing out new, fresh, green leaves as thick as ever.

Propagation.

There are three ways of propagating Strawberries: First, by runners; second, by division of the roots of old plants; third, by seed.

For propagating purposes by the first method, runners, it is well to have plants of each variety set in a separate bed, and far enough from each other to prevent the mixing up of runners. For a small garden, the runners of a few plants are more than sufficient. To make runners root

BARON LYNAN DE LYNICH.

quicker, dirt and manure are thrown over them, and water given frequently. We have in this way obtained several hundred good rooted plants from the runners of three single plants set in the spring.

Strawberry plants may be very well propagated by division of the roots of old plants, though rooted runners are preferable whenever they can be obtained, as it is the case with annual sorts Those two ways of propagating Strawberries will reproduce exactly the same varieties.

Propagation by Seed.

The largest and finest Strawberries must be selected, but picked only when well ripened, smashed in water, the seed falling to the bottom of the vessel used to that effect; it is then taken out, laid on a cloth to drain some, mixed to fine and dry dirt and sowed immediately. A small bed, rather shaded, with a good top dressing of rich dirt obtained from old hot-beds, is selected, the surface having been when leveled and watered with a fine-holed sprinkler; the seed is then thrown even on that bed, and a little dirt sifted out so as to just cover the seed. This little bed must be kept in the best exposed part of the place, shaded from the too hot sun, and watered slightly but quite often; in two weeks the seed will come out, and when the plants are six weeks to two months old, they are good to be set out.

The seed might be kept till the ensuing spring, if desired; but, in that case, it must be well dried in the shade when taken out of the water.

The propagation of the Strawberry by seed is very uncertain, different varieties being thus obtained; and though some may produce a higher and better grade of plants, great many are worthless. With Everbearing or Alpine varieties, the case is different, the original type being reproduced every time.

Re-Setting.

When three to four years old, according to varieties, Strawberry plants get their crown too much out of the ground, so that to make them fruit as good as before, it is necessary to either re-set them, or else have new earth from another part of the garden, scattered all over the beds thick enough to have the plants well earthed up. By such a process, new roots will form over the old ones, and the plants throwing out more fruit buds, will, therefore, yield a larger

crop. Before scattering that new dirt over the beds, it would be a good plan to previously fork up the ground and cover it with a coat of manure which would be sufficiently buried into the ground.

A good way of re-setting Strawberry plants is this: Take a sharp spade, cut the ground on four sides around the plants; if the soil was too dry, it would have to be watered first, to permit the dirt to stick well to the roots, and with a lift throw up the plant with sod, dig out the hole deep enough to receive in its bottom a little well rotten manure, throw in a little water, put back the plants with sod into the hole, seeing that the tops are well out, fill up the interstices with dirt, manure and spade the space between the rows, and water if you can. Such re-set beds will bear nicely for two more years. Previously to re-setting always trim up the tops of plants, and if the ground has been mulched, put back the mulching, which, during the operation, has to be raked out of the way.

Exposure.

According to most experienced fragariculturists, and we agree with them on that point, the very best exposure for Strawberries is an open one, not overshaded at least, and well exposed to the vivifying rays of the sun, and to light. In our California mountains, under the hot sun of June and July, the southern exposure is even the best one if water is used liberally; however, any exposure will do as long as it is an open one; the only difference is that at the south Strawberry beds will bear earlier than at the north. A little shelter from trees and bushes is sometimes a good protection against late frosts.

In Europe, where rain and cloudy weather are very common in the spring and summer, it is said that Strawberries are better flavored and more delicate if raised in sandy or calcareous soil, and that a southern exposure diminishes the quantity, but augments the quality; and *vice versa* with a northern exposure.

Annual Varieties.

In olden times varieties of Strawberries were rather limited, and Strawberry beds were chiefly supplied for new plants from the woods, where did and does grow yet those monthly sorts known as Wood, Four-seasons, Alpine, and which all bear a very small though very fragrant berry.

But at the beginning of this century, horticulturists experimented on the American or Annual sorts, of which the beautiful Virginiana Scarlet is the mother type, and obtained new varieties by seed, crossed them to the Pine or Surinam; also to the Chile White, all Annuals; so to-day, those magnificent Annual varieties have driven poor little Wood and Alpine almost completely out of the market.

The main quality of the Annual Strawberry is its splendid flavor and its large, sometimes enormous size. The Wood and Alpine are certainly more fragrant, the Annuals having been unable yet to equal those Everbearing varieties on that particular point; but the flavor of the latter is so peculiar that as long as Annuals can be had, there can be no demand for Everbearing sorts.

It is the Annual that wants an open exposure, sun and light; while the Wood and Alpine humbly rejoice in the shade.

Biennial Varieties.

Those are Annuals that give a second crop from August to November. To that effect, the plants are completely clipped off clear to the crown, the ground cultivated and watered; after such an operation and in keeping constantly the ground moist enough, the plants soon throw out new leaves and fruit buds, which will fruit before the winter sets in, particularly if the operation is done right after the summer crop is all picked. We do treat plants of all varieties, as well Annuals as Biennials, the same way, and found out that only four varieties out of forty raised on our place are really Biennial. Those four Biennials are Amador, Princess Dagmar, Garibaldi and Alice Nicholson, Amador having been originated by us. It is the first one to bear in the fall. The three other varieties are English and belong to the pale-colored class of Strawberries, a cross, by hybridization, between the Virginia Scarlet and Chile White.

In the fall of 1875, so mild was the season, we picked Strawberries as late as Christmas from those Biennial varieties.

A bed of Biennials, to bear well, has to be thoroughly watered through the summer, so much so from the time the plants throw out blossoms. Young plants bear the best in the fall.

Everbearing, or Wood Varieties.

Though the Annuals have really dethroned this class of Strawberries, still their everbearing qualities make them desirable in every garden; for when the Annuals are gone and we have had time to forget their savory taste, the fragrant little Everbearing is very welcome, at a time, too, that all kinds of small fruit are entirely done with. A dish of Perpetual or Buisson de Gaillon right in the fall is not a very bad dish after all. We will, therefore, give here a special chapter on their culture.

The Wood varieties throw out runners like Annuals, and can be propagated the same way. Enough runners are allowed to take root so as to give new plants for the ensuing year; a plantation of Everbearing having to be renewed every year, if much of a crop is desired.

Those rooted runners have to be planted in the fall of the year, fourteen inches apart at least, and all around. The first runners that will come out in the spring have to be taken off, to give strength to the mother plant. In June and July—not before—four to five runners to each plant are allowed to root, every new one coming out afterwards being destroyed.

In the ensuing fall all the plants are taken out, the ground manured, and the plantation renewed with rooted runners saved for that purpose. Mulching is absolutely necessary with those Perpetual or Wood sorts, and it is done thick to prevent runners of rooting too easily.

Plants may be set in the spring, though, wherever it can be done, the fall is preferable.

Never take the most vigorous runners for new plants, they blooming even before they are well rooted; then they degenerate and, in fact, do not do well. Small, young runners are the best. It is all the reverse, of course, with Annuals.

Bush-Alpine Varieties.

The Bush-Alpine, or Buisson de Gaillon, are remarkable for their complete absence of runners, growing in nice, compact bunches of finely cut leaves, which render them very desirable for borders. The fruit is small, of a beautiful red, and very fragrant, parting freely from the hull or calyx in picking. They are propagated either by the division of the roots of old plants or by seed. Plants have to be set as early as practicable in the fall, to have them

well rooted before the winter sets in. In cold climates none ought to be set after the 1st of November; Bush-Alpine, having very few roots, wouldn't hold enough against the heaving propensities of frosts, or else would be buried into the ground by heavy rains, both of which would ruin the plants. If not made in the fall, such plantations can be done very well in the spring, only they have to be watered quite often to insure their growth

Plants have to be set one foot apart all around, with the crown well out. If propagated by seed, see that heading above. Plantations of Bush-Alpine have to be renewed every year. They bear, and abundantly, from June to December. However, as in June there is plenty of Annuals, it is well to cut off all the spring blossoms to secure a fine crop in the fall.

The Wood, or Perpetual Strawberry, is round, the Bush-Alpine is oval. Their flavor is quite different from that of Annuals, though they are more fragrant.

Staminate and Pistillate Plants.

Annuals are divided into two classes, one that bears staminate blossoms, the other pistillate blossoms. To make our readers better acquainted with the subject—and they have to understand it well if desirous to cross varieties by hybridization—let us take hold of a perfect Strawberry blossom; you will notice that the very middle of the little flower is composed of a small, well rounded cone, with little hair like all over, of the same size and of a yellow tint, this little cone developing itself into a berry if fertilized; that little cluster of yellow hair are the *pistils*, or male organ of the plant; therefore, blossoms that have nothing else but pistils are called pistillate. Staminate blosoms, instead of a cluster of pistils, have long, yellow anthers, which bear that fine fertilizing dust called pollen; those anthers are the stamens, or female organ of the plants, and such blossoms are called staminate. Pistillate plants, set by themselves, will not bear any fruit, though blooming profusely. People ignorant of that particularity in Strawberry blossoms are much disappointed when chancing to have on their place but pistillate varieties. To fertilize them, staminate varieties are planted among them.

There is a third class of blossoms, called Perfect blossoms, or hermaphrodite. It is distinctly composed of a cluster of pistils very close together, and of a large number of anthers, or stamens, standing all round the pistils like

long threads, bearing on their top the pollen, or fecundating dust. Such blossoms all come to fruit; hence their name of Perfect blossoms. All the Everbearing sorts of Strawberries, Wood or Alpine, do bear none but Perfect blossoms; old folks, from their Everbearing, uniform bearing and productiveness, preferred them for a long time to the new American or Annual varieties till they knew better.

Hybridization.

From what precedes, our readers will understand better the manner of crossing varieties by artificial fecundation or hybridization, and so obtain new varieties. The method generally employed in America is this: Fertilizing imperfect blossoms with perfect ones, and sowing the seeds of the cross so obtained. An imperfect blossom plant is planted among several of the perfect blossom sorts, and that plant will bear the cross between both varieties. But this kind of hybridization is too uncertain, while the method followed in Europe, and through which have been originated the most magnificent and greatly varied kinds which are a pride to the European horticulturist, is quite different and more elaborate. Varieties possessing opposite characters are only used for crossing purposes, though they must belong to the same race. For instance, it would not do to cross an Everbearing variety with an Annual. To be successful in obtaining new and superior sorts of Strawberries, one has to select races as pure as possible, bearing fine strawberries of good quality and large size. Having thus selected the two sorts to hybridize, the first thing to be done is to "castrate" the plant to be crossed on, in taking off, with a pair of fine tweezers, the stamens or anthers of its flowers, the operation being done to half a dozen of flowers; then pollen has to be carried from flowers of the kind to cross, on a fine hair brush, and set on the pistils of the castrated flowers. Every new flower that comes out after the operation has to be destroyed; none, in fact, but the artificially fecundated ones being allowed to fruit. When the berries are quite ripened, they are picked, the seed extracted and sowed immediately. The fruit obtained from the new plants, which would fruit eighteen months after the sowing of the seed, constitutes the new variety.

Forcing Strawberries.

In the vicinity of large cities, where primeurs are eagerly sought for and readily paid what they are worth, it might

be profitable to force Strawberries; so we shall give the best method known for obtaining Strawberries earlier than those grown naturally.

The plants are set in pots several weeks before forcing time, and placed under glass in a hot-bed, and in such a manner that the tops of the plants be only two or three inches from the glass. The Strawberry plants set in the open ground in the spring are those that give in July the best runners to force hereafter. At the time that runners so spread out, fine dirt is thrown over them to make them root quicker. In the course of a week they will be rooted enough to set out; for when the roots are still white the transplanting succeeds so much better. In the last part of September or the first half of October they are taken from the bed where they had been transplanted, and set in pots, and kept outside till the time has come to put them under glass, which, in a temperate climate, is done about January or February, and according to the time the fruit is needed.

Now-a-days, hot-beds for *primeurs* of all kinds are heated by a thermosiphon, and instead of filling up the hot-bed frame with manure and tan bark, an empty space is left in the lower part of the frame, where the hot water pipes are laid, a floor being built over them and at ten inches from the top, which floor is laden with eight to nine inches of tan bark or sawdust or sand, tan bark being the best. The pots are then plunged into the tan.

At night and when the weather is cold, the glass must be covered with mats or hot-bed sash; air given inside when the weather is fine and warm; but the sashes must be put down a little before sunset to keep in the warm air; in a word, the sashes must be opened when it is getting warm, and covered with mats as soon as it gets cold; besides, the frame has to be banked up with fresh horse manure, so as to obtain as much heat as possible. The plants must be watered lightly with milkwarm water, that watering being always done on evening before shutting down the sashes. When blooming time has come and the fruit is already formed, it is well to take off every new blossom. If the sun is getting too hot, shade the hot-bed. As soon as the fruit is formed, water has to be given quite often, but never use liquid manure if you do not wish to have your plants all killed. Liquid manure is good for forcing plants set out in the open ground. Pure, slightly warm water is the best, and it must be poured, too, right at the foot of the plants and not sprinkled all over them. As soon as the

fruits are coloring, watering might cease. Of course, weeds have to be taken out, and insects of any kind hunted out and killed.

Strawberries might be obtained outside a couple weeks earlier than the main crop, by setting plants in well exposed and sheltered ground, naturally or artificially sheltered. When the weather is getting too cold, the plants are covered up.

Cares to Plants Forwarded by Mail.

Plants sent out by mail or express from a great distance arrive sometimes in a rather dried-up condition, and are hardly fit to be planted. Such plants have to be plunged in water, a little bit warm, and left in it to soak and revive, that is, between six to eight hours, set out at once and watered, whether the ground is wet or not, the weather clear or cloudy. They must be watered every day till they show signs of growing; if the weather gets too hot, shade the plants. In this way we have succeeded with plants forwarded from Europe to Nevada City, and that were some thirty days on the way, in a mail-bag, some 132 days in a box with other plants.

Duration of Strawberry Beds.

A plantation of Strawberries, according to varieties, will last from two to five years. When two years old, however, the beds have to be well manured, in the fall the better, and the plants banked up or re-setted. If runners are too much allowed to run and root, it injures somewhat the plants, abridges their life and diminishes considerably their yield, the sap being spent for nothing; and this effort at reproducing itself enervates and weakens the mother plant.

The stirring up of the surface, manuring, spading, hoeing and all the other cares of a Strawberry plantation, will prolong its existence and make it yield a year and more longer.

The more rich, shaded and moist is the ground, the more space have the plants, the longer, then, will be their duration and more certain will be the crop.

Strawberry plants set by themselves, in hills, are those that last the longest.

THE LADY.

Mode to Perpetuate Strawberry Beds.

Rotation is as good to ground set for a Strawberry plantation than to any other crops. So, when Strawberry plants are getting too old, they are digged out, burned up in piles and the ashes spread over the ground—which has to be well manured—and a crop of vegetables raised on the first year and planted back in Strawberries the ensuing fall. If, however, the garden was too small to admit such a rotation, and no other room could be had on the place where to set a new Strawberry bed, then the best would be to take out about nine inches of dirt from the old bed and have new one from any part of the garden put in its place, manure it and set young plants, rooted runners being always the best ones.

How to make Strawberries last.

So delicious is the Strawberry, that people are not contented with having some during their usual season, but want them to last a longer time. The way to have Strawberries half the year round is to plant, to a very good exposure, beds of very early varieties; then, to an ordinary exposure, early and half early varieties; at a northern exposure, half late and late ones; last, at both exposures, beds of Everbearing, Wood and Alpines. That way, Strawberries will be picked till the middle of July on Annual varieties and till November on Everbearing ones.

Spring Work on Strawberry Beds.

When the winter is over and before the plants start out growing, the beds must be cleaned up. First, the mulching is raked out of the way; then, with a long knife, are the dead leaves and old stems cut off close to the crown of the plants. Leaves and stems might be burned up and the ashes scattered over the ground. Next, the ground is forked or spaded—we prefer the fork to the spade, because it does not cut or hurt the roots any—weeds pulled out and the beds watered, if it is hot at the time, and water on hand—water will invigorate the plants that get more or less fatigued by the operation. In stirring up the surface, earth might be drawn round the plants to make them grow new roots, and roots always start below the crowns.

From the time Strawberry beds are so worked, they have to be watered once in a while, according to the weather; with a good mulching, a weekly watering will be sufficient. If

the beds have not been manured before the winter, it can be done immediately after the plants have been cleaned up, but only well rotted manure has to be used.

Composts might be made before the winter sets in and used in the spring for manuring Strawberry beds.

How to Raise Very Large Fruit.

In the first place, set out plants obtained by hybridization, if having any; if not, plants of your largest varieties; set them in rich ground and at a good exposure. Water several times with liquid manure, which can be had by throwing, in a barrel half full with water, horse and hen manure, guano, urine and even human manure. Be careful not to wet the leaves, but pour this liquid manure right at the foot of the plants. To prevent the liquid of running over, the ground has to be loosened around the plants. The next thing is to take off all the fruit stems but one or two, leaving but two or three berries on each stem. Very large berries are thus obtained.

How to pick and keep Strawberries.

It is a very simple and easy thing to pick Strawberries, still very few people know how to do it. With Bush-Alpine and certain Annual varieties, berries parting freely from their hull or calyx, their picking is easily made. But with most Annuals, the fruit do not part so freely from the calyx into which it is imbedded, and the picking must be done by taking hold of the stem of the fruit with the thumb and forefinger and cutting it off with the thumb's nail. It is very essential, particularly when Strawberries have to be shipped to a distant market, to pick the berries with the hull and part of the stem on, they will keep so much better. All berries that are picked without hull and stem adhering to it are set aside for immediate use; such Strawberries when packed among the others, are apt to dirting and spoiling the good ones by their juice running out

With very large varieties whose fruit weighs from one ounce to one ounce and a half, it is better to make them rest on little forks made of wood and stuck in the ground, to prevent the berries of dirting and being attacked by certain insects. Some people use a little prop or support made of wire. A thick mulching might be all that is necessary for preventing the fruit of getting dirty, but not to prevent insects from going after them, and somehow they

seem to prefer feasting on the very largest and finest berries.

To keep Strawberries, they have to be picked before their complete maturity, set in a shallow box and stored in a cool place. If they are dirty, do not wash them; that has to be done anyhow half an hour before serving them on the table.

Packing and Shipping.

Since Strawberries are cultivated on a large scale, people have to look to a distant market for their crop. So far, packing in this country is done very carelessly, and, as a consequence, Strawberries arrive to any distant and even near market, bruised, moulded, sour and hardly fit to eat. This we see every year up here with early Strawberries shipped from San Francisco. When near a market, small baskets holding from one to two pounds might be used; the more shallow they are, however, the better. We have been using, this year, strawboard baskets, having bought the patent right for our own use. It is the most handy, cheapest basket we ever tried.

The very best way of packing Strawberries for a distant market is this: Use shallow boxes holding from ten to twelve pounds; lay in the bottom a little fine hay and fresh leaves, such as grapevine, strawberry, raspberry, mulberry leaves; then set a layer of Strawberries, a layer of leaves and so on to the top; set some leaves on the last layer of Strawberries and a little hay on top of leaves, and nail up the cover. Several such boxes are tied up together to make a single case of fruit. Packed in that way, Strawberries may be shipped to a great distance, over six hundred miles by fast freight, and never get bruised or spoiled. We have tried it, and Strawberries shipped from this place arrived at San Francisco, after having been picked forty hours, in a splendid condition. When packed in this manner, the dealer places them himself in little baskets like the strawboard ones that cost but a trifle, and as fast as the sale goes.

Insects Injurious to Strawberries.

The insects that injure the Strawberry, feasting on it, are: the white worm, ants, slugs or naked snails, jumping bug, centipede or strawberry scolopendra, and several kinds of worms and caterpillars; besides the mole and gopher, who injure the plants.

The fragariculturist has to watch closely his beds of Strawberries, and make an early attack upon the little army of insects, that are watching, with as much eagerness as he, the ripening of the luscious berries.

White Worm.—It is the larvæ of the Chafer or May-bug, a species of Scarabeus or Beetle. The Larvæ has the appearance of a large, white worm, and stays two years in the ground in a larvæ state, before emerging out as a perfect insect; it is the most dreaded enemy of a Strawberry plantation, for it takes them but a few weeks, if in large numbers, to devour a whole bed of Strawberry plants. There is no remedy against its ravages, except to kill every larvæ seen in the ground while working it, or hunting up the perfect insect on the bushes it lives on. In California they are very few, which is due likely to the absence of bushes on which the perfect insects do feed. In Europe they are very common.

Slugs or Naked Snails. We never saw any in this part of California; however, they are very fond of Strawberries. The way to prevent them of getting at the fruit, is to spread ashes or saw-dust round the Strawberry plants, in which they get so hampered that they cannot get away, and are easily killed with a sharp pointed wire. Small mounds of bran may be set here and there, and as they are very fond of it they are easily caught in the very same manner.

Ants.—This little pest goes after the Strawberry as much as it does after any other fruit. To get rid of them, set on their regular trail saucers with honey or syrup in them, and when the ants are collected in the saucers in large numbers pour upon them boiling water. A little honey might be introduced, too, in the ants-hill; soon will the ants crowd up around the honey, boiling water poured into the hill will make dead ants of them.

Centipede.—This insect is rather common everywhere; it attacks the very first ripening berries, and the largest ones in preference. It bores in the berry a hole big enough to set half the body in, and sometimes coils himself up with whole family in one of these large berries. They seem to be more common in the first two weeks of ripening time. The best way we know to get rid of centipedes, is this: at the head of the box used for picking Strawberries, we carry a pair of short-blade scissors, and whenever we find a centipede at work or digesting, we simply cut it in too. When we pick a Strawberry with a hole right underneath, we are satisfied that it is done by a centipede, and by looking under

EXHIBITION.

the mulching we surely find one or several of them making themselves at home, and in two pieces they go.

Jumping-Bug.—This little beetle, which jumps up like an acrobat, is over half an inch long, having exactly the shape of a muskmelon seed. It bores a hole into the berry, sticking half the body in and feasting in perfect ease. We do operate on this little acrobat with the scissors, and as unceremoniously as we do with the centipede. This jumping-bug, as soon it is touched, jumps up several inches in the air, falling back on his legs, and in this way makes good his escape.

Worms of all kinds, found on the plants or fruit, are treated in the same manner.

Mole.—This little animal, once in a Strawberry bed, will cause much injury to the plants, by disturbing the roots while opening his subterranean galleries in search of insects to feed on. They have two sets of galleries, one right under the surface, the other six to twelve inches deeper in the ground, with passages from one set of galleries to the other. It is very hard to catch moles with traps or poison; the best is to keep a watch and kill him either with the gun or spade.

Gopher.—This is a regular California institution, and, indeed, they are plenty in this State. The gopher feeds on roots, but somehow he does not care for those of the Strawberry; however, gophers injure the plants in the same way as moles do, by cutting or disturbing the roots, in running his galleries right under the plants. Same remedy as with the mole: gun, poison or trap.

Maladies of the Strawberry.

The Strawberry is quite hardy, and very little subject to diseases of any kind, though sometimes it is attacked by jaundice. This complaint is due either to the poor quality of the soil, or its being too dry, or having been given too fresh manure; in all cases it will promptly get green and well again if watered three or four times with water in which has been dissolved ½ of an ounce of sulphate of iron per gallon; a gallon being sufficient for 25 to 40 plants. When the soil is too poor, some compost or manure must be spread on the surface; if not, the malady would break out again among the plants.

The Art of Preparing Strawberries.

After Strawberries have been picked and gathered, only half the work has been done, and they have to undergo a certain operation before being ready to be eaten up.

Whichever way you intend to have Strawberries served on the table, you will have first to clean them up. Taking a common jack-knife, with its point you take off the hull still adhering to the fruit, and the berries will not bruise so much than if done with the fingers. Cut out, too, any part of those large berries that get spoiled or green on one side. Set the berries in a deep vessel, then pour water gently on them to wash out the sand or dirt. Last, put the berries into a strainer to dry some; always serve them half an hour after having them in water. It is a great mistake to think that Strawberries when washed do lose their flavor; if they do, half an hour after the operation they get it back again; and surely they look nicer, fresher and more tempting yet; however, as a wet Strawberry will spoil quicker than one that has not been put into water, people must see that Strawberries be washed only half an hour at the most before eating them.

Sugar and Strawberries.—Some amateurs eat them so, dry, with nothing else but well pulverized sugar. They are served on the table all ready sugared.

Wine and Strawberries.—Set some crushed sugar on your Strawberries, and pour a little water on it so as to make it melt; never use pulverized sugar for this dish. Pour then the quantity of wine that you wish; good, superior wine, and not sour, poor claret.

Brandy and Strawberries.—Use crushed sugar, and melt it like the preceding dish, but put in a little more water and a half tea-spoonful of cognac only to a person, and for a good sized dish; taken this way, Strawberries digest splendidly.

Cream and Strawberries.—Spread powdered sugar on the Strawberries, and add the Cream. This is the worst way of preparing and eating Strawberries; for, taken with cream they are rather heavy on the stomach and of slow digestion. This dish does agree better with sick persons, and yet they must not eat too much of it.

Champagne and Strawberries.—Ye, whose palate has got so delicate and hard to suit, amateurs and gourmands, just try Champagne and Strawberries. First spread powdered sugar on the Strawberries, then put in the vanilla cream prepared to that effect, stir up, and last pour on the whole some sparkling Champagne. After having done honor to this splendid dish, you have nothing to desire; you are happy. It was likely a dish of Champagne and Strawberries that mother Eve presented to Adam, and for which the poor fellow was banished from the Eden. No such fears with you, and you had better try.

Preserving Strawberries.

There are several ways of making Strawberry preserves; however, the best method is this:

Strawberries	2 pounds.
Raspberries	½ "
Sugar	2 "
Water	½ quart.

First dissolve the sugar in the water, which must be boiling at the time, and keep the whole boiling till a drop of syrup taken on a plate will stick to it without running; that will take from 45 minutes to an hour and a half, according to the quantity of syrup made or the shape of the vessel used; the wider is the vessel, the more rapidly does the evaporation take place; anyhow, do not set it in more than four inches of water in height.

When the syrup has been thus boiled into the desired consistency, the Strawberries, well cleaned, are thrown in it, with the juice extracted from the Raspberries; let it boil for 25 to 35 minutes; it is then put at once in cans. If pots are used that are not hermetically sealed, to keep such preserves a longer time, the pots have to be filled up not quite full, enough room being left for a layer of currant jelly about ¼ of an inch thick. A week after, a piece of paper dipped in brandy is set on the top of the jelly, and the cover fixed on.

Strawberry Jelly.

Take:

Strawberries	2 pounds.
Raspberries	½ "
Sugar	2 "
Gum Arabic	2 ounces.

Put in the vessel used to make jellies, a layer of Strawberries, then a layer of sugar, so on to the top; add the raspberry juice, make it boil for 30 to 40 minutes without stiring up; add the gum arabic, which has been previously dissolved in a little cold water. Put the whole in a sieve and let it run out of itself. Fill up the pots or cans, and do with it as with currant jelly.

Always keep jellies in a dry place.

Sometimes jelly obtained from very watery Strawberries will mould some; in that case the jelly is put back on the fire and boiled for several minutes.

Medicinal Properties of Strawberries.

The ancients regarded Strawberries as a delicate and valuable dish, and attributed to them great medicinal virtues. But at that remote epoch, it was impossible to procure enough of that little fruit for general use, the only varieties known being the Wood or Everbearing, which grew wild in the woods of Europe; while the case is different with us, and now-a-days Strawberries can be had in quantities to suit. It may, therefore, be interesting for amateurs of Strawberries to know what are their therapeutic properties.

A memoir addressed to the Society of Sciences of Paris, by M. Sauquet, claims that the free use of Strawberries has cured persons affected with gout. The great Linnæus cured himself of that disease, too, by the use of Strawberries.

Gesner says that the juice extracted from Strawberries soaked in alcohol, and taken by doses of a spoonful morning and evening, brings relief to persons affected with gravel. Strawberries, indeed, have been highly spoken of in all calculus disorders.

Boerhaave affirms that in that case this special property of Strawberries reside in the grains. These grains are indigestible, and will cause sometimes irritation of the bowels; on the other hand, like all small fruits which have grains in large numbers, they will relieve persons subject to costiveness.

Gelnecke, of Stettin, recommended that fruit as a vermifuge, and used it against the tænia or tapeworm.

Van Swieten asserts that insane persons were cured after a few weeks' daily use of several pounds of Strawberries.

Schulze, Hoffman, Galibert, cite cases of consumption cured by the use of Strawberries, which cases, however, are believed to have been only pulmonary catarrh with slow fever and marasm.

Apulee praises Strawberries smashed up in honey, for relieving pains residing in the spleen.

Strawberries are cooling and quite digestive, and agree very well with persons of a bilious or sanguine constitution.

Strawberries, served with cream, are said to be injurious to dyspeptics.

General Hints on Fragariculture.

When starting a Strawberry plantation for market purposes, do not set more plants than you can really take care of.

Keep your ground in good order, the weeds out, the surface loosened, the runners off; have always in view that to have large Strawberries and heavy crops, you must do something for it. If you think that it is too much work and bother to keep your beds clean and the plants in good condition, then do not raise Strawberries at all.

In filling up your baskets for market, be careful to not let in any spoiled Strawberries, and place the largest ones on the top and in the bottom; that way, people will not get disappointed at finding big berries, too, in the bottom of the basket. Always arrange your berries in nice shape on the top of your basket, assorting those of various colors and different varieties in such a way that the baskets will look so much more attractive.

As long as you can do it, always mix up varieties; such a dish is by far preferable to one made out of a single variety.

Fill up your baskets well, and rather give 17 ounces of berries for a pound than 15 ounces.

Get up early to pick Strawberries, which, in fact, ought to be picked before the sun gets too hot; if picked through the day, set them immediately in a cool cellar till shipping time.

No matter how large is a berry, when there is a little hole in it, made by insect or bird, throw it away; nothing spoils the look of a box of nice Strawberries as a berry with a hole in it.

In short, be diligent with your work, tasty and honest in the making up of your baskets, and fair in all your dealings, and you will find that little business lucrative enough.

EXPLANATION OF PHOTOGRAPHS.

We have had photographs of fourteen number one varieties taken, out of 37 varieties kept on our place, and of which 13 varieties will fruit next season (1877) for the first time. As each number of our treatise contains at least two such photographs, we shall here give a full description of those 14 varieties. We must say, first, that those photographs represent the *average* large size, and not largest Strawberries, raised by our method, and without forcing whatever. They are all hardy and have perfect blossoms.

English Varieties.

Cockscomb (from the Royal garden of Frogmore).—Very large—indeed, the largest raised on our place; cretiform and cuneiform, dark crimson, sub-acid, productive. Bear best on the first bearing year. Seeds well outside of little cavities; semi-early.

Baron Lynan de Lynich.—Very large, well-shaped, long and thick; dark, brilliant crimson; semi-early; moderately productive. Seeds standing well outside.

Princess Dagmar.—Large and uniformly so; slightly conical shape, nice light crimson, sometimes of a bricky red; rich, splendid flavor, sweet and fragrant; seeds neatly set in small cavities; very productive, and a regular yielder every year. Very hardy and vigorous. First ripening berries rather pale; keeps on bearing for a long time; stout grower, many runners. Biennial. A most desirable variety for family use.

The Lady.—Large, broad, well-shaped, light crimson, rosy, like a maiden's cheek; sweet and flavored; fruit stalks long, with berries hanging in clusters; seeds not too deeply set; bears very regularly every year. Season, medium to late. Biennial. It is a pale, delicate berry, very productive. Foliage light, runners few; very hardy.

Alice Nicholson.—Medium large, well-shaped, light crimson, sweet and flavored. A parent to Princess Dagmar. Very productive, hardy and vigorous.

Alcott Pineapple.—Very large, cuneiform, uniformly large and well-shaped; bright glossy scarlet color. Plants very low, thin foliage. Productive. Seeds well outside of cavities. Late. Very desirable for a distant market.

Exhibition.—The sweetest and best flavored berry of all, but very poor in color; light crimson, medium large, well-shaped; plants hardy, thick foliage, leaves small; very productive and keeps so for six years. Seeds slightly imbedded Very late.

American Varieties.

Col. Cheney.—A great favorite in the Eastern States, and a very desirable sort to keep. Large, triangular-shaped, sub-acid; bright, light scarlet color, approaching the orange; quite showy, very hardy, vigorous and productive. Seeds slightly imbedded.

Jucunda.—Very large, sub-acid, dark scarlet color, productive; season medium to late. Seeds numerous, but standing well outside, which makes this variety very desirable for a distant market.

Felix Gillet's Seedlings and Hybrids.

Gen. Grant—(hybrid).—Large and uniformly so; triangular, dark scarlet, sweet and well-flavored; berries standing up on their stalks inside the thick foliage, which is of a light green with a light crimson border. Do not grow many runners; productive, particularly on its first bearing year. Seeds well outside. Good for a distant market. Season medium to late.

La Conique—(Seedling).—Long, conical, bright crimson, sweet and quite flavored. Foliage rather low; small leaves. Seeds standing well outside. Season medium. Moderately productive.

Sierra Nevada—(Seedling).—A parent of *Baron Lynan de Lynich*; very large, well-shaped, dark crimson, a little acid; thick foliage. Hardy. Late. Moderately productive.

Gov. Booth—(Seedling).—Originated from *Robert Trail* (English); large, rounded, light crimson, sweet and flavored. Thick foliage, hardy and vigorous. Late. Moderately productive.

Granger—(Seedling).—Obtained from Princess Dagmar; Large, bright crimson, very sweet and flavored. Productive. Hardy and vigorous, like the Princess. Our newest variety.

Amador—(Seedling).—Medium size, bright scarlet, sweet, moderately productive; small leaves. Its principal merit is to be biennial and the first one to bear in the fall, as early as August.

The varieties we procured from France are: *Aurelie*, *Bonne bouche*, *Belle de Nantes*, *Mithridates*, *Bourguignonne*.

They will fruit for the first time with us next season (1877); also the following varieties, obtained from a noted fragariculturist of Ohio: *Sterling*, *Norman*, *Margaret*, *Seth Boyden*, *No.* 28, *Curiosity*, *S. B. Seedling*. All these are seedlings, while the above French varieties are hybrids.

Besides, we have other valuable American and English varieties in full bearing, to wit: *Wilson's Albany*, *Downer*, *Kentucky*, *Green's Prolific*, *Metcalf*, *N. Y. Scarlet*, *French* (all American).

Rifleman, *Garibaldi*, *Kimberly Pine*, *Virginia* (English), *Everbearing variety*, *Buisson de Gaillon*, or *Bush-Alpine* (red).

FELIX GILLET'S

Nursery of Fruit Trees.

Varieties introduced in California from Europe.

Walnut.

Prœparturiens.

Chestnut.

Marron de Lyon,
Marron Combale.

Filberts.

White Aveline,
Red Aveline,
Grosse de Piedmont.
Du Chilly.

Pears.

Bergamotte,
Royale D'hiver,
Passe-Crassanne,
Duchesse d'Angouleme,
Doyenne D'hiver,
Beurré Clairgeau.

Apples.

White Calville,
Red Calville,
Igonette,
Canada Reinette.
Gros api,
Petit api.

Peaches.

Grosse mignonne,
Early purple,
Nivette.

Cherries.

Guigne marbrée (very early),
Bigarreau de Mezel,
Noire luisante.

Almonds.

Duchesse, or Paper Shell.

Medlar.

Monstrueuse.

Plums.

White Green Gage,
D'Oulins Green Gage,
Violette Green Gage.

Mulberry.

Spanish Black.

Gooseberries.

Princess Royal,
Taylor's Bellerophon,
Shadwick's Sportsman.

Currants.

Imperial White,
Imperial Red,
Cherry,
Black.

Grapes.

Thomery, Jalabert, Violet, Oblong, Tenerif, Malvoisie, Royal Red, Pondichery, Rose, Pino, Teinturier, Medoc, etc.

Besides, all the best Varieties already raised in California.

SILK WORM EGGS

ALWAYS ON HAND

AT

FELIX GILLET'S

EXPERIMENTAL COCOONERY AND MULBERRY PLANTATION.

Best varieties of Mulberry Trees

FOR

Silk Worm Feeding.

Grafted Rose-leaved,

Morus Japonica.

Both introduced in California, Utah and Mexico,
by FELIX GILLET, of Nevada City, Cal.

Thirty-seven varieties of the choicest, largest and most productive Strawberries.

(English, American, French and F. Gillet's seedlings.)

FRENCH EVERBEARING RASPBERRIES,

(Three Crops a Year.)

A most splendid variety.

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